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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,313	07/07/2003	Harri Pekonen	04770.00116	8267

22907 7590 06/07/2005

BANNER & WITCOFF  
1001 G STREET N W  
SUITE 1100  
WASHINGTON, DC 20001

EXAMINER

HUYNH, CHUCK

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 06/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/614,313

Applicant(s)

PEKONEN, HARRI

Examiner

Chuck Huynh

Art Unit

2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1-3, 9, 10, 12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wager et al. (hereinafter Wager) in view of Campanella.

Regarding claim 1, Wager does disclose a method for processing data corresponding to a first service and received from a wireless system that includes a first base station and a second base station, the method comprising:

(a) receiving a first burst of data packets (Col 2, lines 35-45; Fig. 1, no. 15a) from the first base station (Fig. 1, no. 20a), wherein the first burst corresponds to the first service (Col 2, lines 35-45);

(b) performing a handover from the first base station to the second base station (Col 2, lines 35-38);

(c) receiving second burst of data packets (Fig. 1, no. 10b) from the second base station (Fig. 1, no. 20b), wherein the second burst corresponds with the first service (Col 2, lines 35-45).

Although, Wager does disclose the usage of the FEC process (Col 1, lines 16-19; Col 3, lines 5-20) but did not fully disclose it in his disclosure of when

(d) if an error is detected within the second burst, correcting the error in accordance with a first forward error correcting (FEC) code, wherein the error results from the handover .

However, Campanella does disclose the usage of the forward error correction process.

It would have been obvious to one ordinarily skilled in the art at the time of invention to use Campanella's disclosure of the FEC process with Wager's disclosure to correct transmission errors.

Regarding claim 2, Wager does disclose the method of claim 1, wherein (d) comprises:

(i) determining whether a first data packet is missing from the second burst of data packets (Col 3, lines 8-20); and

(ii) it is well known in the art to use FEC code for calculating the first data packet from the second burst of data packets.

Regarding claim 3, Wager does disclose the method of claim 1, wherein (d) comprises:

(i) determining whether a received symbol is incorrect, wherein the received symbol is contained in one of the data packets of the second burst (Col 3, lines 37-41);  
and

(ii) correcting the received symbol, wherein the received symbol is equal to a corresponding transmitted symbol (Col 3, lines 47-50, 54-59).

Regarding claim 9, Campanella discloses the method of claim 1, further comprising:

(e) receiving configuration information about the first FEC code (Col 7, lines 6-13).

Regarding claim 10, Wager does disclose the method of claim 9, wherein the configuration information is able to be received over an overhead channel from one of a plurality of base stations that are associated with the wireless system (Col 1, lines 35-44).

Regarding claim 12, Wager discloses the method of claim 1, wherein (b) comprises:

(i) measuring a first signal characteristic of a first signal that is transmitted by the first base station Col 3, lines (Col 2, lines 35-45, 60-67; Col 3 lines 8-15, 32-36);

(ii) measuring a second characteristic of a second signal that is transmitted by the second base station (Col 2, lines 35-45, 60-67; Col 3 lines 8-15, 32-36); and

(iii) if the first signal characteristic satisfies a first predefined criterion and if the second signal characteristic satisfies a second predefined criterion, switching reception from the first base station to the second base station (Col 3 lines 8-15, 32-36).

Regarding claim 14, Wager does disclose the method of claim 1, wherein the first base station is associated with a first channelization code and the second base station is associated with a second channelization code (Col 2, lines 35-45; Fig. 1).

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wager in view of Campanella in further view of Bobey.

Regarding claim 4, Wager in view of Campanella discloses all the particulars of the claim including the method of claim 3, wherein (d) further comprises:

(iii) if numbering of received data packets is not consecutive in the second burst, rearranging the received data packets so that the numbering is consecutive (Abstract; Col 2, lines 11-13);

however, does not fully disclose that

(iv) if duplicate data packets are received within the second burst, discarding one of the duplicate data packets which means having corresponding .

However, Bobey does disclose discarding duplicate data packets (Col 5, lines 24-26).

It would have been obvious to one ordinarily skilled in the art at the time of invention to combine Bobey's disclosure with Wager in view of Campanella to discard duplicate packets because they are not needed and one version of the packet is sufficient.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wager in view of Campanella in further view of Chou (6594798 B1).

Regarding claim 5, Wager in view of Campanella discloses all the particulars of the claim except the method of claim 1, wherein (d) is performed at an application layer.

However, Chou does disclose the method of claim 1, wherein

(d) is performed at an application layer (Abstract; Col 3, lines 11-12, 21-23, 67; Col 8, lines 42-44, 61-64; Col 17, lines 47-64).

It would have been obvious to one ordinarily skilled in the art at the time of invention to use Chou's disclosure to perform the correction process at various layers to provide error-free communication.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wager in view of Campanella in further view of Khayrallah in further view of Echols.

Regarding claim 6, Wager in view of Campanella discloses all the particulars of the claim except the method of claim 2, wherein (i) comprises:

(1) determining packet numbers that are associated with received packets of the second burst, wherein the packet numbers correspond to a transmitted packet ordering but Wager in view of Campanella in further view of Khayrallah does not fully disclose

(2) if a packet number is missing from the received data packets, inserting a null symbol to signify an erasure within the second burst, wherein the null symbol is associated with a missing data packet.

However, Wager in view of Campanella in further view of Khayrallah does disclose the method of claim 2, wherein (i) comprises:

(1) determining packet numbers that are associated with received packets of the second burst, wherein the packet numbers correspond to a transmitted packet ordering (Col 2, lines 11-13);

It would have been obvious to one ordinarily skilled in the art at the time of invention to have an ordering of the data to provide correct broadcasting communication.

On the other hand Wager in view of Campanella in further view of Khayrallah does not fully disclose

(2) if a packet number is missing from the received data packets, inserting a null symbol to signify an erasure within the second burst, wherein the null symbol is associated with a missing data packet.



However, Echols does disclose (2) if a packet number is missing from the received data packets, inserting a null symbol to signify an erasure within the second burst, wherein the null symbol is associated with a missing data packet (Page 2, [0022]).

It would have been obvious to one ordinarily skilled in the art at the time of invention to denote missing data to be corrected to provide error-free communication data.

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wager in view of Campanella in further view of Lou.

Regarding claim 7, Wager in view of Campanella discloses all the particulars of the claim except for the method of claim 1, wherein the first FEC code comprises a block forward error correcting (FEC) code.

However Lou does disclose the method of claim 1, wherein the first FEC code comprises a block forward error correcting (FEC) code (Col 3, lines 61-63).

It would have been obvious to one ordinarily skilled in the art at the time of invention to apply a block of FEC code for correcting errors to provide error-free communication.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wager in view of Campanella in further view of Scheller.

Regarding claim 8, Wager in view of Campanella discloses all the particulars of the claim except, the method of claim 1, wherein the first FEC code comprises an expandable forward error correcting code.

However, Scheller does disclose the method of claim 1, wherein the first FEC code comprises an expandable forward error correcting code (Col 5, lines 37-46, 61-67 – Col 6, lines 1-4).

It would have been obvious to one ordinarily skilled in the art at the time of invention to use Scheller's disclosure in combination with Wager in view of Campanella to have the FEC code be expanded to optimize particular data transmission.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wager in view of Campanella in further view of Chou (6594798 B1).

Regarding claim 11, Wager in view of Campanella discloses all the particulars of the claim including the method of claim 1, further comprising:

(f) performing a handover from the first base station to the second base station (Col 3, lines 8-17, 32-38);

however, Wager in view of Campanella does not fully disclose

(e) receiving a third burst of data packets from the first base station, wherein the third burst corresponds to a second service;

(g) receiving a fourth burst of data packets from the second base station, wherein the second burst corresponds to the second service; and

(h) if another error is detected within the fourth burst, correcting the other error by utilizing a second FEC code.

However, Chou does disclose

(e) receiving a third burst of data packets from the first base station, wherein the third burst corresponds to a second service (Col 17, lines 48-51);

it would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Chou's disclosure in the process of handover to provide error-free communication transmission;

(g) receiving a fourth burst of data packets from the second base station, wherein the second burst corresponds to the second service (Col 18, lines 48-51));

it would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Chou's disclosure in the process of handover to provide error-free communication transmission;

(h) if another error is detected within the fourth burst, correcting the other error by utilizing a second FEC code (Col 18, line 48);

It would have been obvious to one ordinarily skilled in the art at the time of invention to use FEC to correct errors to provide error-free communication transmission.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wager in view of Campanella in further view of Lou.

Regarding claim 13, Wager discloses multiple data streams received from base stations (Col 2, lines 50-53) but does not full disclose the method of claim 1, wherein the first base station is associated with a first center frequency value and the second base station is associated with a second center frequency value.

However, Lou does disclose bit data stream being transmitted on different frequency (Col 8, lines 33-37).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Lou's disclosure to have base stations transmitting at different frequency to provide communication.

10. Claim 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wager in view of Campanella in further view of Famolari.

Regarding claim 15, Wager in view of Campanella discloses all the particulars of the claim except the method of claim 1, wherein the first service is an Internet Protocol (IP) service.

However, Famolari does disclose the method of claim 1, wherein the first service is an Internet Protocol (IP) service.

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Famolari's disclosure to provide IP service for communication.

Regarding claim 16, it is well known in the art that in a cellular network instructions are in a computer-readable medium having computer-executable instructions such as instructions for performing the steps recited in claim 1.

Regarding claim 17, it is well known in the art that in a cellular network instructions are in a computer-readable medium having computer-executable instructions such as instructions for performing the steps recited in claim 2.

11. Claim 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger in view of Schuster (US 6145109).

Regarding claim 18, Willenegger discloses a wireless terminal that receives data from a wireless system, the wireless system comprising a first base station and a second base station (Page 2, [0023], [0024], [0025]), comprising:

- a storage buffer (Fig. 2, no. 262; Page 10, [0181]);
- a timing module (Page 3, [0035]);

a radio module that communicates with the wireless system over a radio channel (Fig. 2, no. 250);

a processor that receives an indication from the timing module that one of a plurality of bursts of data packets is being transmitted and that stores said one of plurality of bursts into the storage buffer, the processor configured to perform (Fig. 2, no. 256; Page 2, [0029]):

(a) receiving a first burst of data packets from the first base station, wherein the first burst corresponds to an associated service (Page 2, [0026]);

(b) performing a handover from the first base station to the second base station (Page 2, [0025]);

(c) receiving a second burst of data packets from the second base station, wherein the second burst corresponds to the associated service (Page 15, [0241], Page 16 [0253]);

Willenegger discloses all the particulars including error correction coding and linear block decoding and Reed Solomon code and other error correction method of the claim except

(d) if an error is detected within the second burst, correcting the error in accordance with a forward error correcting (FEC) code, wherein the error results from the handover.

However, Schuster does disclose using FEC coding (Abstract; Col 3, line 46).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate FEC coding with Willenegger's disclosure to provide error correction coding for error-free code transmission.

Regarding claim 19, Schuster discloses the wireless terminal of claim 18, wherein the processor is configured to perform:

- (i) determining whether a first data packet is missing from the second burst of data packets (Abstract; Col 7, lines 13, 44, 58); and
- (ii) calculating the first data packet from the second burst of data packets in accordance with the FEC code (Col 8, lines 11-12).

12. Claim 20, 21, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger in view of Strawczynski.

Regarding claim 20, Willenegger discloses a service source that sends information to a wireless terminal through a wireless system, the wireless system comprising a first base station and a second base station (Col 2, [0023], [0024], [0025]), comprising:

- a storage buffer (Fig. 2, no. 232; Page 9, [0162]);
- a network interface (Page 18, [0281]); and
- a processor (Fig. 2, no. 214), the processor configured to perform:

- (a) obtaining the information from an information source, the information

- being associated with a service (Page 18, [0274 – 0280]);
- (b) forming a plurality of data packets from the information and storing the plurality of data packets into the storage buffer (Page 9, [0162]; Page 18, [0274]);
- (e) retrieving the plurality of data packets from the storage buffer (Page 9, [0162] and sending the plurality of data packets to the wireless terminal through the network interface (Page 2, [0027]).

Willenegger discloses all the particulars of the claim and even error correcting coding within a handover (Page 8, Section [0155]; Page 14, Section [0225]) but does not fully disclose

- (c) determining a forward error correcting (FEC) code that provides a desired degree of robustness corresponding to the service and a possible loss of data packets when the wireless terminal handovers from the first base station to the second base station, wherein the first base station and the second base station transmit bursts of data packets;
- (d) encoding the plurality of data packets in accordance with the forward error correcting (FEC) code; and

However, Strawczynski does disclose handover procedures (Abstract)

- (c) determining a forward error correcting (FEC) code (Col 4, lines 23-42) that provides a desired degree of robustness corresponding to



the service and a possible loss of data packets when the wireless terminal handovers from the first base station to the second base station, wherein the first base station and the second base station transmit bursts of data packets (Col 6, lines 12-15; Col 9, lines 13-30);

it would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate FEC coding within handover procedures to provide error-free communication;

(d) encoding the plurality of data packets in accordance with the forward error correcting (FEC) code (Col 4, lines 23-31);

it would have been obvious to one ordinarily skilled in the art at the time of invention to apply the FEC code to all packets to check for errors in all packets within the communication process.

Regarding claim 21, Strawczynski discloses the service source of claim.20,

wherein (c) comprises:

(i) receiving at least one parameter about the FEC code (Page 4, lines 28-31, 36-38; Page 6, lines 13-15).

Regarding claim 23, Strawczynski discloses the service source of claim 20, wherein the FEC code is selected in accordance with the service (correcting speech or data) (Col 4, lines 36-42).

13. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger in view of Strawczynski in further view of Schuster (6145109).

Regarding claim 22, Willenegger in view of Strawczynski discloses all the particulars of the claim but does not fully disclose the service source of claim 20, wherein the FEC code is determined in accordance with a potential loss of data packets when a wireless terminal performs a handover.

However, Schuster does disclose the service source of claim 20, wherein the FEC code is determined in accordance with a potential loss of data packets when a wireless terminal performs a handover (Col 4, lines 56-67).

It would have been obvious to one ordinarily skilled in the art at the time of invention to use FEC coding to correct loss data to provide better communication.

14. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strawczynski in view of Schuster (US 6243846).

Regarding claim 24, Strawczynski discloses a method for processing data corresponding to a first service and received from a wireless system that includes a first

base station and a second base station (Abstract; Col 1, lines 37-51), the method comprising:

(a) receiving a first burst of data packets from the first base station, wherein the first burst corresponds to the associated service (Col 5, lines 37-45);

(b) performing a handover from the first base station to the second base station; receiving a second burst of data packets from the second base station (Col 5, lines 37-45), wherein the second burst corresponds to the associated service;

(d) determining packet numbers that are associated with received packets of the second burst, wherein the packet numbers correspond to a transmitted packet ordering (Col 6, lines 47-65);

(g) calculating the first data packet from the second burst of data packets in accordance with a forward error correcting (FEC) code (Col 9, lines 19-22).

Strawczynski discloses all the particulars of the claim including denoting missing data (Col 6, lines 11-21), but does not fully disclose

(e) if a packet number is missing from the received data packets, inserting a null symbol to signify an erasure within the second burst, wherein the null symbol is associated with a missing data packet;

however, Schuster dose disclose if a packet number is missing from the received data packets, inserting a null symbol to signify an erasure within the second burst, wherein the null symbol is associated with a missing data packet (Col 9, lines 61-67 – Col 10, lines 1-9);

it would have been obvious to one ordinarily skilled in the art at the time of invention to substitute an X symbol with a null symbol with both still denoting an incorrect data needing to be corrected to provide error-free communication.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuck Huynh whose telephone number is 571-272-7866. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chuck Huynh

**WILLIAM TROST**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**